UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,891	07/02/2003	Varadarajan Srinivasan	NLM1.P194	6901

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EXAMINER	
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ART UNIT	PAPER NUMBER
2416	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/613,891	SRINIVASAN ET AL.
	Examiner	Art Unit
	JEFFREY M. RUTKOWSKI	2416

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 August 2008*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4,6,9-11,21 and 25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.
6)☐ Claim(s) _____ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
  Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Claims 3, 5, 7-8, 12-20, 22-24 and 26 have been cancelled.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 08/15/2008 has been entered.

Specification

1.   The disclosure is objected to because of the following informalities: page 5 of the

specification is not reproducible.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the first and second paragraphs of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making
> and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
> contemplated by the inventor of carrying out his invention.
> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

3.   **Claims 1-2, 4, 6, and 9-11** are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the enablement requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to enable one skilled in the art to which it pertains,

or with which it is most nearly connected, to make and/or use the invention. The specification

does not adequately describe a token generator that comprises a priority encoder. According to

the specification, the token generator is a priority encoder (see specification paragraphs 0049 and

0052).

4.   **Claims 1-2, 4, 6, and 9-11** are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention. It is not clear what the relationship is between the compare

logic and the rows of the table because the word "coupled" suggests a physical device (compare

logic) is connected to an abstract data type (table). The Examiner has interpreted the word

"coupled" to mean "in communication with".

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

6.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness
    or nonobviousness.

7.   **Claims 1-2, 10-11, 21 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Onvural et al. (US Pg Pub 2002/0150115), hereinafter referred to as Onvural, in view of

Amou et al. (US Pat 6,895,012), hereinafter referred to as Amou, the Admitted Prior Art,

hereinafter referred to as the APA, Srinivasan et al. (US Pat 5,706,224), hereinafter referred to as

Srinivasan, and Rolfe et al. (US Pat 5,912,893), hereinafter referred to as Rolfe.

8.   For **claims 1 and 21**, Onvural teaches a departure time calculator for generating a

departure time for each packet (see paragraph 27 lines 1-4); a table having a plurality of rows,

each for storing the departure time for a corresponding packet (see paragraph 24 lines 12-16);

and compare logic having a plurality of outputs coupled to corresponding inputs of the token

generator (see paragraph 24 lines 16-17; The token/index is used to locate the data in the

memory.); a token generator for generating a token for each packet (see paragraph 24 lines 16-

17), where each token is generated in response to a next free address in the table (see paragraph

38 lines 1-3; Since the index/token can be implemented as a linked list, the index pointer

indicates the free addresses in the table by showing which slots contain a packet.).; and a packet

memory for storing a payload for each packet at an address indicated by the packet's token/index

(see paragraph 24 lines 16-17).

        Onvural does not disclose the use of a departure time prioritizer. Amou discloses a

departure time prioritizer (see Fig. 2 Box 3) for comparing the departure times with each other to

determine which of the departure times is the earliest (see col. 4 lines 61-64). Thus, it would

have been obvious to one of ordinary skill in the art to use the system of Amou in the system of

Onvural to determine the sequence in which packets need to be read (Amou, col. 1 lines 5-10).

9.   The combination of Onvural and Amou does not disclose compare logic coupled to a

table. The APA suggests compare logic having a plurality of inputs coupled to corresponding

rows of a table (departure times stored in a CAM are compared against a search key, see

specification paragraph 0007). It would have been obvious to a person of ordinary skill in the art

at the time of the invention to use the APA's system in Onvural's invention to make use of a well-known way of performing scheduling (see specification paragraph 0006).

10.   Onvural discloses a token generator where each token is generated in response to a next free address in the table (see paragraph 38 lines 1-3; Since the index/token can be implemented as a linked list, the index pointer indicates the free addresses in the table by showing which slots contain a packet.). Onvural does not disclose the use of a priority encoder. The APA discloses a priority encoder (the priority encoder is well-known, see specification paragraph 0052). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a priority encoder in Onvural's invention to make use of a well-known device.

11.   The combination of Onvural and the APA disclose the use of a priority encoder. Onvural and the APA does not disclose a priority encoder coupled to compare logic. Srinivasan discloses a priority encoder coupled to compare logic (comparator output is carried to a priority encoder, see col. 4 line 15). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Srinivasan's arrangement in Onvural's invention to select information with highest priority from memory (Srinivasan, col. 2 lines 45-50).

12.   Onvural discloses the departure time for each packet is stored in the row of the table. Onvural does not disclose the use of a token that refers to a memory address. Rolfe discloses the rows of a table that are addressed by the packet's token (each token references a specific location in a host computer's memory, see col. 8 lines 29-32). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Rolfe's tokens in Onvural's invention to control communications (Rolfe, col. 8 lines 38-40).

13.   For **claim 2**, Onvural further teaches the departure time calculator and the departure time

prioritizer comprise a packet scheduler (see paragraph 24 lines 1-2 and paragraph 27 lines 1-4;

Assigning timestamps to determine when the packets should be transmitted is scheduling the

packet transmissions. The sorter schedules the packets by earliest deadline first).

14.   For **claim 10**, Onvural further teaches each row of the table includes a valid bit indicating

whether a valid departure time is stored in the row (see paragraph 38 lines 1-3).

15.   For **claim 11**, Onvural further teaches the tokens are generated in response to the valid

bits (see paragraph 39 lines 1-9).

16.   **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Onvural in view

of Amou, the Admitted Prior Art, Srinivasan and Rolfe as applied to **claim 1** above, and further

in view of Angle et al. (US Pat 6,519,225), hereinafter referred to as Angle.

17.   For **claim 4**, the combination of Onvural, Amou, the Admitted Prior Art, Srinivasan and

Rolfe disclose the departure time prioritizer and the token generator. The combination of

Onvural, Amou, the Admitted Prior Art, Srinivasan and Rolfe does not disclose the use of a

programmable priority encoder. Angle discloses a programmable priority encoder (see col. 16

lines 1-5). It would have been obvious to a person of ordinary skill in the art at the time of the

invention to use a priority encoder in Onvural's invention to transmit information based on

priority.

18.   For **claim 25**, Onvural further teaches asserting a signal line for the row of the table that

contains the earliest departure time (see paragraph 35 lines 1-5; The sorter/compare circuit uses a

pointer to determine the earliest time.); generating an index of the row having the asserted signal

line (see paragraph 24 lines 16-17); and reading a packet from a location in a packet memory

addressed by the index (see paragraph 24 lines 16-17).

19.   Claims **6 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Onvural

in view of Amou, the Admitted Prior Art, Srinivasan and Rolfe as applied to **claim 1** above, and

further in view of McAlpine (US 6,011,798).

Regarding claim 6, the combination of Onvural, Amou, the Admitted Prior Art,

Srinivasan and Rolfe does not disclose more than one row of the table stores the same departure

time. Mcalpine teaches more than one row of the table stores the same departure time (see col. 5

lines 27-32). Thus, it would have been obvious to one of ordinary skill in the to use the system

of McAlpine in the system of Onvural to allow the system will be able to transmit more than one

packet with the same scheduled time.

Regarding claim 9, the combination of Onvural, Amou, the Admitted Prior Art,

Srinivasan and Rolfe does not disclose the departure times can be stored in any order in the table,

regardless of priority. McAlpine teaches that the departure times can be stored in any order in

the table, regardless of priority (see col. 5 lines 11-15). Thus, it would have been obvious to one

of ordinary skill in the art to use the system of McAlpine in the system of Onvural in view of

Amou and Lynn. The motivation for using the system of McAlpine in the system of Onvural in

view of Amou and Lynn is so that the packets do not have to be sorted before placing them in the

table, which simplifies the process.

Response to Arguments

20.   Applicant's arguments with respect to **claims 1-2, 4, 6, 9-11, 21 and 25** have been

considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY M. RUTKOWSKI whose telephone number is (571)270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey M Rutkowski
Patent Examiner
05/14/2009

/KWANG B. YAO/

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